

GEORGIA DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SUPPLEMENTAL SPECIFICATION

Section 441—Miscellaneous Concrete

Delete Subsection 441.3 and substitute the following:

441.3 Construction Requirements

441.3.01 Personnel

General Provisions 101 through 150.

441.3.02 Equipment

A. Forms

Forms are subject to the Engineer's approval. Use forms that are:

- Wood or metal that is readily available
- Straight and oiled before each use

Use metal divider plates and templates.

Use the slip form placement method when applicable. If the slip form method does not produce a product with the proper quality, shape, grade, or alignment, the Engineer may require using fixed forms.

B. Weep Holes

Provide weep hole drain pockets filled with coarse aggregate to use with weep hole drain pipe or formed openings according to the Plan details.

441.3.03 Preparation

Before placing the concrete, excavate for toe walls, edge walls, and weep hole drain pockets; place coarse aggregate in weep hole drain pockets; and grade, finish, and compact the subgrade surface. Use mechanical tamps for compaction if necessary.

441.3.04 Fabrication

General Provisions 101 through 150.

441.3.05 Construction

A. Extent and Thickness of Pavement

See the Plans to determine the areas to be paved and the dimensions.

Thicknesses are subject to a minus tolerance of 0.5 in (13 mm). Do not perform overlay pours.

B. Preparation of Subgrade

Finish the subgrade for miscellaneous concrete to the line and grade on the Plans and the following:

1. Compact the subgrade to the same degree as the roadway on which it is placed. Compact the subgrade according to [Section 209](#).
2. If a Contract involves a Roadway and a Bridge Contractor, the Roadway Contractor shall complete the grading for the slope paving.
The Bridge Contractor shall complete final grading, compacting, dressing, placing, and maintenance to the structures until completion.
3. When placing paving on the front slopes of ditches and shoulders, place any required special materials during the roadway construction.
4. Do not excavate for velocity dissipators, spillways, and slope drains below the foundation elevation. Do not excavate wider than necessary to provide working space or to remove soft, unsuitable material. Backfill with selected material.
5. When fitting spillways to concrete pavement, set the specified dowel bars into the pavement when it is laid. Use metal parting strips to hold the ends of dowels bent into the grooves.

C. Concrete

1. Mixing

Mix Class B concrete as specified in [Section 500](#) with the following exceptions:

- a. Use of small capacity job-site batchers and one-bag mixers is allowed. The rate of concrete placement in [Subsection 500.3.05.P](#), “Meet the Minimum Placement Rates” is waived for miscellaneous concrete.
- b. Proportion concrete ingredients volumetrically if the Engineer has approved equipment calibration and operation and the operator is certified by the Office of Materials and Research.

2. Placing and Finishing

Place and finish concrete as follows:

- a. Deposit concrete within forms or against other pavements on a compacted and wetted subgrade to the depth to produce the specified thickness.

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| NOTE: Do not place concrete on a muddy or frozen surface. |
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- b. Vibrate the headwalls.
- c. Strike off the concrete to a plane surface and finish it with a Type IV or Type V finish as defined in [Subsection 500.3.05.AB](#), “Finish Concrete” and complete the following:
 - 1) **Concrete Slope Paving.** Give a final finish with a stiff-bristle broom. With the Engineer’s approval, mechanically convey the concrete to the forms.
 - 2) **Concrete Sidewalks.** Give a Type V finish unless otherwise noted on the Plans. Test the surface with a 10 ft (3 m) straightedge laid parallel to the center line. Eliminate irregularities greater than 0.25 in (6 mm) per 10 ft (3 m) while the concrete is still plastic.

Ensure that concrete sidewalk constructed as curb cut (wheelchair) ramps has a rough or textured finish.

- 3) **Concrete Paved Ditches.** Ensure that the surface of the bottom and sides of paved ditches are uniform and true to grade and cross section.

Ensure that straight-grade tangents do not deviate more than 1 in (25 mm) within 10 ft (3 m) when tested with a 10 ft (3 m) straightedge. Do not allow deviation if it reduces the ditch paving thickness, causes water to pond, or alters the direction of flow.

Finish the ditch paving by floating with wood or metal floats to bring mortar to the surface to cover the coarse aggregate.

Use reinforcing that conforms to Plan details if required.

- 4) **Concrete Curbs, Gutters, and Median.** Finish according to [Subsection 441.3.05.C.2, "Placing and Finishing."](#) Remove face forms as soon as possible and finish the exposed surfaces with a wood float.

Use a straightedge to test the edge of the gutter and top of the curb and median to conform to the requirements for the adjacent pavement. Irregularities shall not exceed 0.25 in (6 mm) in 10 ft (3 m).

Place the curb and gutter using a machine as long as the results are satisfactory.

- 5) **Curb Cut Wheel chair Ramps.** Construct a Type A, B, C, or D ramp according to the Special Details in the Plans. Tie ramps into adjacent paved or unpaved sidewalk and use a rough or textured finish.

3. Joints

Follow these procedures to construct joints on slopes, ditches, sidewalks, and curbs, gutters, and medians.

a. Slope Paving

Place paving on slopes in horizontal or vertical courses, but not a mixture of both.

- 1) Construct horizontal courses approximately level and at least 3 ft (1m) but no more than 6 ft (1.8 m) wide measured along the slope.

When needed, construct trapezoidal courses at the top and bottom to accommodate sloping berm and ditch line conditions.

- 2) Edge the paving at construction joints between courses with a 0.25 in (6 mm) radius tool.
- 3) Provide vertical contraction or construction joints spaced along the horizontal course at right angles to the horizontal construction joints at approximately 40 ft (12 m) intervals, in line not staggered.

No other vertical lines will be required in horizontal courses.

When using vertical contraction joints, cut them with a tool one-third the depth of the paving during the finishing operation. Edge the contraction joints the same as construction joints.

Vertical courses approximately equal and at least 3 ft (1 m) but no more than 5 ft (1.5 m) wide across the plane of the slope. The desired width is 4 ft (1.2 m). Horizontal lines are not required in vertical courses.

Separate slope paving from the masonry of structures, sidewalks, curbs, and rigid-type roadway pavements of preformed joint filler that are 0.5 in (13 mm) thick.

b. Concrete Paved Ditches

Form joints in concrete paved ditches as follows:

- 1) Space contraction joints at 30 ft (9 m) intervals.
- 2) Place expansion joints only where the paved ditch joins the roadway pavement or some other structure.
- 3) Do not use joint sealers for expansion or contraction joints.

c. Concrete Sidewalk

Form transverse contraction joints using a tool designed to form a groove one-third the depth of the sidewalk at intervals shown on the Plans.

Where sidewalks abut the curb and gutter, ensure that alternate joints coincide. Round the edges with a 0.25 in (6 mm) edger. Make expansion joints according to the materials, dimensions, and locations specified on the Plans.

d. Concrete Curbs, Gutters, and Medians

Form contraction joints or expansion joints on curbs, gutters, and medians.

- 1) **Contraction Joints.** Ensure that joints in curb, gutters, and medians are spaced the same as the joints in paving. Form joints by using metal divider plates or sawing them as in [Section 430](#).

Form joints at least one-fifth but not greater than one-fourth the depth of the concrete. Except for sawed joints, finish the joints with a 0.25 in (6 mm) edging tool.

For curbs, gutters, and medians adjacent to pavement other than concrete, contraction joints shall be as follows:

- For header curb and combination curb and gutter, install contraction joints spaced no more than 20 ft (6 m) apart.
- For gutter median, install a contraction joints spaced no more than 20 ft (6 m) apart.

- 2) **Expansion Joints.** Form expansion joints according to the Plan details or as directed. Ensure that they coincide with the expansion joints in the adjoining pavement or gutter.

Cut the joint fillers to the same cross section as the construction. Trim flush the material that protrudes after the concrete is finished.

When miscellaneous concrete items are not adjacent to concrete construction, provide expansion joints at an interval of at least 500 ft (150 m).

e. Curb Cut Wheelchair Ramps

Locate and form expansion joints for curb cut wheelchair ramps according to the Special Details in the Plans for ramp Type A, B, C, or D.

4. Curing

Use curing methods specified in [Subsection 430.3.05.L](#), "Cure the Concrete." Ensure that the membrane curing compound is Type 2, if used. Pack honeycombed areas immediately after removing the forms.

D. Backfilling

Backfill the areas as soon as possible without damaging the work.

E. Clean-Up

When concrete work is complete, clean each surface. Protect the work from stains or other damage until Final Acceptance.

441.3.06 Quality Acceptance

General Provisions 101 through 150.

441.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.